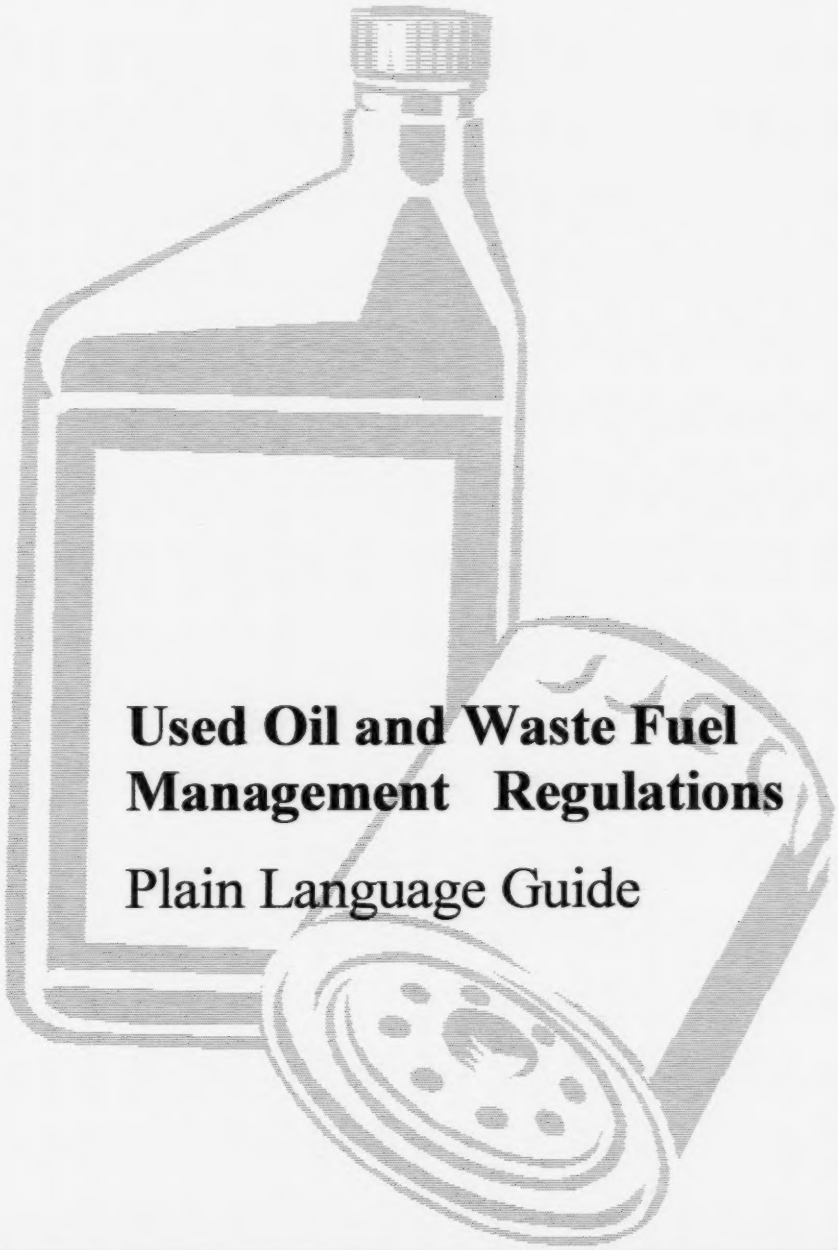

Used Oil and Waste Fuel Management Regulations

Plain Language Guide

Northwest Territories Environment and Natural Resources

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Plain Language Guide to the Used Oil and Waste Fuel Management Regulations

Introduction

The *Used Oil and Waste Fuel Management Regulations* were developed to ensure that used oil and waste fuel is managed in a consistent and environmentally sound manner in the Northwest Territories (NWT). These regulations apply to the storage, handling, and disposal of these products.

The regulations were developed over a period of 10 years, and are based on scientific research and discussions with other jurisdictions. They are also based on consultation with the public, industry, government, and businesses in the NWT. Their intent is to ensure the safe management of these products.

This guide was written to provide a plain language version of the regulations. Every effort has been made to ensure accuracy. If there are any contradictions between the guide and the regulations, the regulations prevail.

Why do we have these regulations?

Used oil and waste fuel are a major potential source of environmental contamination in the NWT. They account for about 70% of the hazardous waste generated in the Territory each year.[1] In a 1987 survey,[2] this amounted to approximately 1.7 million litres. Of that amount, only 240,000 litres were re-used as fuel or recycled. The remaining 1.5 million litres were largely unaccounted for, some of which was dumped or placed in landfills.

Many positive steps have been taken to solve this problem over the past decade, including the development of used oil furnaces or boilers and specialized incinerators, as well as new re-refining techniques. While these apparatus provide a method for managing used oil and waste fuels, they have the potential to create other problems if not operated properly. If the feedstock comes from a traditional "junk" barrel containing used oil and a variety of wastes such as chlorinated solvents produced in a shop or garage the resulting emissions would release contaminants into the environment that are more toxic than the original feedstock.

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[1] *NWT Hazardous Waste Survey*, Vista Engineering, Yellowknife, *for* Environmental Protection Division, Dept. of Renewable Resources, Yellowknife, NWT. October 1994.

[2] *Inventory of and Recycling Alternatives for Waste Liquid Petroleum in the Northwest Territories*, Stanley Associates Engineering Ltd., Yellowknife, NWT *for* Pollution Control Division, Dept. of Renewable Resources, GNWT, Yellowknife, NWT. March 1987.

How will these regulations affect industry?

Most jurisdictions in Canada require generators of used oil and waste fuel to consign the material to an approved facility for disposal or recycling. In the Northwest Territories, complying with requirement this can involve high transportation costs and limited options for disposal. That's why the Government of the Northwest Territories (GNWT) will allow business and industry to dispose of their own used oil and waste fuel, provided their method of disposal meets acceptable environmental safeguards. The use of used oil furnaces is an example of how a business can safely manage their wastes in an environmentally sound manner. This method also allows businesses to offset their heating costs and save on the high cost of transporting the material to the south.

What is used oil?

Used oil is any heavy, hydrocarbon-based lubricating oil that has become unsuitable for its original purpose. This could be due to a loss of its original properties and/or the presence of impurities. Examples include:

- crankcase oil
- hydraulic fluid
- automatic transmission fluid
- gear oil

What is waste fuel?

Waste fuel is a flammable or combustible hydrocarbon that has become unsuitable for its original purpose. This could be due to a loss of its original properties and/or the presence of impurities. This could be the result of age or contamination with water or dirt. Types of waste fuels include:

- gasoline
- diesel fuel
- furnace fuel
- aviation fuel
- kerosene
- naphtha

What is waste-derived fuel?

A waste-derived fuel is a mixture of hydrocarbons (used oil or waste fuel) that has been re-processed and/or re-refined. It is used as a fuel additive or as an inexpensive fuel substitute in engines or specially designed oil-burning appliances such as industrial boilers. Waste-derived fuel differs from used oil in that all or most of its impurities have been removed.

What are the main features of the new regulations?

- Discharging *used oil, waste fuel and waste-derived fuel* into the environment is prohibited. This includes, but is not limited to disposing of these products into landfills, sewers, and water bodies. Used oil, waste fuel, and waste-derived fuel cannot be used for dust suppression.

- Unless approved by the Chief Environmental Protection Officer (Chief EPO), open burning of *used oil, waste fuel and waste-derived fuel* is prohibited.

- Incineration of *used oil, waste fuel, and waste-derived fuel* – such as in a used oil furnace – is permitted. However it is not permissible to do so in residential areas. This restriction is intended to protect public health.

- Blending, incinerating, or re-processing *used oil* with a flashpoint of less than 37.7EC is prohibited, unless through the use of approved equipment at a registered facility. This measure is intended to minimize the risk of fire and explosions.

- *Used oil, waste fuel, and waste-derived fuel* must be stored in containers that have been specifically designed for the storage of hydrocarbons. The fuel must be stored in a manner that minimizes the risk of spills and further ensures that the container can be periodically inspected for leaks or potential leaks.

- Anyone who wishes to blend, incinerate, or re-process *used oil* must register their facility with the Chief EPO, in accordance with Schedule B of the regulations. They must also keep accurate records of their activities.

- Anyone who wishes to incinerate *waste fuel* must provide 14 days advance notice to the Chief EPO. They must also provide additional information, as outlined in the regulations and in this guide.

- Anyone who wishes to incinerate *waste-derived fuel* must register their facility with the Chief EPO in accordance with Schedule B of the regulations and must keep accurate records of their activities.

- Anyone who wishes to incinerate *used oil or waste derived fuel* must have a representative sample of one month's feedstock analysed at least once a year to ensure that it does not contain levels of impurities. These include cadmium, chromium, lead, total organic halogens (such as chlorine compounds), PCBs, and ash content. Impurities must not be in excess of those set out in Schedule A of the regulations.

- Anyone who wishes to incinerate *used oil or waste derived fuel* may apply to the Chief EPO to alter the frequency of the required analyses. In addition, if an environmental inspector has a reason to be concerned about the nature of the feedstock, the inspector may require the owner of the facility to have the feedstock analysed at any time and/or on a more frequent basis.

- Incinerating *used oil or waste-derived fuel* that contains levels of impurities above those that are set out in Schedule A of the regulations is prohibited.

- Diluting *used oil or waste-derived fuel* in order to meet the criteria in Schedule A of the regulations is prohibited.

- Blending *used oil* with a virgin fuel for the purpose of injecting it into an internal combustion engine is permitted if the volume of used oil is not greater than 5% and impurities contained within the used oil do not exceed those listed in Schedule A of the regulations.

- Oil filters must be punctured and/or crushed and drained of their contents for 24 hours prior to disposal.

- The Chief EPO can exempt a user from a requirement of the regulations if that the user's proposed management plan will provide the same level of environmental protection that would be achieved through compliance with the regulations. This allows for some flexibility in management solutions to satisfy the intent of the regulations.

To whom do the regulations apply?

The regulations apply to anyone who generates used oil and/or waste fuel on Commissioner's Land. The regulations also apply to anyone who intends to incinerate, re-process, or blend used oil, and anyone who intends to incinerate waste fuel and waste-derived fuel.

Users who generate less than 200 litres per year, or are generating used oil or waste fuel in the normal use of a residence are exempt from certain sections of the regulations. These users are still required to manage materials in compliance with the *Environmental Protection Act*, the regulations, and guidelines.

If you are not sure of how you are affected by these regulations, contact the nearest ENR office for advice and assistance.

Who has to register with the Chief EPO?

You must register with the Chief EPO if you intend to:

- blend, re-process or incinerate used oil
- incinerate waste-derived fuel

If you run a business that regularly generates used oil or waste fuel, and you intend to consign it to another business or individual for disposal, you do not need to register under the regulations. However, you must register with the Chief EPO as a generator of hazardous waste.

If you consign your wastes to another person or business, you must ensure that they handle and dispose of it in a legal and responsible manner. You are responsible for this product from beginning to end. You could be held legally and financially responsible for clean up costs if the firm that you consign your waste to dumps it illegally.

Refer to the *Guideline for the General Management of Hazardous Waste* for further details or contact the nearest ENR office for advice.

What kind of information is required when I register my facility?

For blending or incinerating used oil

- name, address, mailing address, phone number and fax number of the applicant

- a description of your business (ie: automotive repair shop, filling station, electrical power generating plant)

- whether you are already registered as a generator of hazardous waste, as required under the *Guideline for the General Management of Hazardous Waste*; if so, include the registration number

- two contact names (include title) who can provide further information, if required (usually the owner or the person in charge of maintaining the equipment)

- the location of the site or facility

- an explanation of the proposed process to blend or incinerate the used oil, as well as a complete description of the equipment and the storage tanks (it would be helpful to the Chief EPO to include a copy of the operator's manual for any equipment)

- the make and model of the used oil appliance (the appliance must be CSA and/or ULC approved; Fire Code regulations prohibit the use of a used oil furnace for heating a residence)

- how often the equipment will be used and how much material (in litres per year) will be run through the system

- the anticipated sources of used oil

- the proposed method for storing the used oil

- any controls used to minimize environmental impacts associated with ongoing operations (e.g.: spill control, stack scrubbers for incinerators or disposal of by-products such as ash and clinkers)

For reprocessing used oil

- name, address, mailing address, phone number and fax number of the applicant

- a description of your business (e.g.: automotive repair shop, filling station, electrical power generating plant)

- whether you are already registered as a generator of hazardous waste, as required under the *Guideline for the General Management of Hazardous Waste*; if so, include the registration number

- two contact names (include title) who can provide further information, if required (usually the owner or the person in charge of maintaining the equipment)

- the location of the site or facility

- an explanation of the proposed process for re-processing the used oil, as well as a complete description of the equipment and the storage tanks (it would be helpful to the Chief EPO to include a copy of the operator's manual for any equipment)

- the projected amount of used oil that will be re-processed each year

- the anticipated sources of used oil

- the proposed method for storing the used oil

- the amounts and types of wastes produced at the facility (as a result of the re-processing) and the options for final disposal of each type of waste

  (Re-processing used oil usually involves removing impurities such as ash and metals. It is important that you carefully consider how this by-product material will be disposed. In most cases, landfilling will not be an option. Refer to the *Guideline for the General Management of Hazardous Waste* and the *Guideline for Industrial Waste Discharges* for further details.)

- any controls used to minimize environmental impacts associated with ongoing operations (ie: spill control, stack scrubbers for incinerators or disposal of by-products such as ash and clinkers)

For incinerating waste-derived fuel in an industrial boiler

- name, address, mailing address, phone number and fax number of the applicant

- a description of your business (e.g.: automotive repair shop, filling station, electrical power generating plant)

- whether you are already registered as a generator of hazardous waste, as required under the *Guideline for the General Management of Hazardous Waste*; if so, include the registration number

- two contact names (include title) who can provide further information, if required (usually the owner or the person in charge of maintaining the equipment)

- the location of the site or facility
- an explanation of the proposed process to incinerate the waste-derived fuel, as well as a complete description of the equipment and the storage tanks (it would be helpful to the Chief EPO to include a copy of the operator's manual for any equipment)
- the industrial boiler specifications for the site or facility
- how often the equipment will be used and how much material (in litres per year) will be run through the system
- the anticipated sources of waste-derived fuel
- the proposed method for storing the waste-derived fuel
- pollution control devices to be used, if any

What kind of information do I have to keep for record keeping?

For used oil

- the volume of used oil generated at the facility
- the volume of used oil consumed
- the name and address of the person in charge, management or control of the used oil, and the place where the used oil was produced
- the analysis of any representative sample of used oil
- a summary of maintenance performed on the incinerator or processing equipment
- the volume and nature of the products produced from the used oil
- the destination of the used oil products shipped from the facility

For waste-derived fuel

- the volume of waste-derived fuel incinerated

- the name and address of the person in charge, management or control of the waste-derived fuel, and the place where the waste-derived fuel was produced
- the analysis of any representative sample of waste-derived fuel
- a summary of maintenance performed on the incinerator

What about the requirement for analysing my feedstock? How often must I do this and where can I have it analysed?

The regulations require anyone who blends, incinerates or re-processes used oil, or blends and incinerates waste-derived fuel to take a representative sample and have it analysed for the impurities listed in Schedule A of the regulations. This must be done at least once a year.

However, the Chief EPO may alter the frequency if the owner of the facility can provide sufficient reason. For example, a facility whose feedstock comes from a single source and does not vary in nature from year to year, might qualify for such a waiver.

The annual sample must be taken at least three months after the previous sample.

Feedstock must be analysed by an accredited facility. ENR can provide a list of approved laboratories.

Why do I need to have my feedstock analysed?

Scientific studies have found that there is a direct link between the quality of the feedstock and the quality of the resulting emissions from incinerating used oil and waste-derived fuel. If the feedstock contains high levels of impurities, the emissions will also contain high levels of impurities. Some of these impurities can be far more toxic than the original waste material.

ENR has developed a set of criteria for feedstock quality to ensure that incinerating these materials does not result in the generation of unacceptable emissions. In the case of waste-derived fuel, it is advisable for buyers to ask the producer for a copy of the analytical test results before they purchase the product.

What happens if I have my feedstock tested and the levels of impurities are found to be above the criteria in Schedule A of the regulations?

If levels of impurities are above the listed criteria, you will not be permitted to incinerate the feedstock, or blend it with other fuels or used oils. You may re-process it, if your facility has been registered with the Chief EPO, in accordance with the *Guideline for the General Management of Hazardous Waste*. You may also ship it to another site or facility in the NWT that is registered and approved by the Chief EPO.

If you intend to ship feedstock outside the NWT, the receiving facility must be approved by the appropriate authorities in that jurisdiction. It is your responsibility and it is in your best interest to ensure that the receiver is reputable, and will handle and dispose of the material in accordance with the relevant environmental statutes and regulations. Should the receiving firm or person mishandle or illegally dump the material, you could be held responsible for any subsequent clean-up or disposal.

Why is flashpoint a consideration in the regulations?

Flashpoint is the lowest temperature at which a material will ignite in an open flame. It is included in the regulations primarily for safety reasons. If you intend to incinerate used oil, you should pay special attention to the flashpoint of your feedstock. Used oil furnaces are designed to incinerate materials with a flashpoint of 37.7EC and above. Consult your user's manual for specific information.

You would not consider burning gasoline, which has a very low flashpoint, in your home furnace. The same holds true for used oil furnaces. Burning materials with a low flashpoint in an appliance that has not been designed for this purpose poses a serious risk of explosion, and injury or death to the operator.

What about waste fuel? How can I dispose of it?

Waste fuel cannot be openly burned, used for dust suppression or otherwise discharged into the environment. The regulations allow for the incineration of waste fuel, provided the Chief EPO is advised of this activity 14 days prior to the date of incineration. The following information must also be provided:

- volume and type of waste fuel
- source of the waste fuel

- why the waste fuel is considered to be waste (ie: it is old, has water in it, is "off spec")
- identity of the impurities, if any (ie: water, oil, dirt), in the waste fuel, as well as the estimated concentrations of these impurities
- location of the waste fuel
- certification, approvals and test data relating to the equipment to be used for incineration (e.g.: is it CSA or ULC approved? has it been used anywhere else? what is the make and model?)
- other options that were examined for disposal and why incineration was chosen above all others

Do I need to have my waste fuel analysed for impurities before I incinerate it?

Not unless you or an environmental inspector have reason to believe there is a concern. Under normal circumstances, waste fuel is considered to be a waste because it is old or has water or dirt in it. However, if your stock of waste fuel is also mixed with used oil, you should have a composite sample of the material tested for the impurities listed in Schedule A of the regulations. As is the case with used oil, diluting the waste fuel with clean fuel in order to meet the regulatory criteria is prohibited.

Frequently Asked Questions

If I'm only burning used oil that I generate, and I'm not mixing solvents or anything else with it – why do I have to have the oil analysed?

It must be analysed to determine the type and level of contaminants present. The only way to be sure that it meets the guidelines is to have it tested. If your used oil falls within the criteria in Schedule A, and you can demonstrate that it will remain the same from year to year, then you may qualify for an exemption from testing. This exemption will likely take the form of less frequent sampling and analysis such as once every two or three years.

How much will it cost to have a sample of oil analysed?

The total cost to have a sample analysed is approximately $350.

Can I mix old fuel oil with my used oil and burn it in my used oil furnace?

Yes, only if the following conditions are met:

- the used oil meets the criteria outlined in Schedule A, but cannot be diluted to meet these criteria)
- the flashpoint of the resultant mixture will not be lower than 37.7EC

This guide was written to provide a plain language version of the regulations. If you have any questions or comments on the guide or the regulations, please contact the nearest ENR office.